

```

2  template <typename FUNCTOR>
3  Eigen::Matrix<double, 2, 2> LinearMassEdgeMatrixProvider<FUNCTOR>::Eval(
4      const If::mesh::Entity &edge) {
5      Eigen::Matrix<double, 2, 2> elBdyEdgeMat;
6      // Throw error in case not edge entity
7      LF_VERIFY_MSG(edge.RefEl() == If::base::RefEl::kSegment(),
8          "Unsupported entity type " << edge.RefEl());
9      if (predicate_(edge)) {
10         // Obtain endpoints of the edge
11         auto endpoints = If::geometry::Corners(*(edge.Geometry()));
12         LF_ASSERT_MSG(endpoints.cols() == 2, "Wrong no endpoints in " << edge);
13         // Compute length of the edge
14         double edge_length = (endpoints.col(1) - endpoints.col(0)).norm();
15         // Compute the local edge mass element matrix
16         // clang-format off
17         elBdyEdgeMat << 1.0 / 3.0, 1.0 / 6.0,
18             1.0 / 6.0, 1.0 / 3.0;
19         // clang-format on
20         elBdyEdgeMat *= edge_length * cool_coeff_;
21
22         return elBdyEdgeMat; // return the local edge mass element matrix
23     }
24     return (Eigen::Matrix<double, 2, 2>::Zero());
25 } // LinearMassEdgeMatrixProvider<FUNCTOR>::Eval

```